

ABSTRACT

In a reference voltage generation circuit, a bandgap reference circuit (BGR circuit) **1** includes diode element **D1** and **D2** having different current densities, three resistive elements **R1**, **R2** and **R3**, a P-type first transistor **Tr1** for supplying a current to a reference voltage output terminal **O**, a P-type second transistor **Tr2** for determining a drain current flowing through the first transistor **Tr1** by a current mirror structure, and a feedback type control circuit **11**. The BGR circuit **1** is connected to a pull-down circuit **2**. The pull-down circuit **2** includes a resistive element **R4** and a P-type transistor **Tr4** which are connected in series. The resistive element **R4** is connected to a drain terminal of the second P-type transistor **Tr2**. The P-type transistor **Tr4** has a gate terminal connected to the reference voltage output terminal **O** and a grounded drain terminal. Thus, the number of elements and current consumption in the start-up circuit which shifts the operation from an abnormal stabilization point to a normal stabilization point are reduced.